

We claim:

1. A catalyst for gas-phase oxidations, comprising an inert support and a catalytically active composition comprising transition metal oxides applied thereto, or a pre-catalyst for this, obtainable by treating an inert support with an aqueous suspension or solution of the transition metal oxides or their precursor compounds, wherein the suspension contains a binder dispersion and the binder is a copolymer of an α -olefin and a vinyl-C₂-C₄-carboxylate whose vinyl C₂-C₄-carboxylate content is at least 62 mol%.
2. A catalyst as claimed in claim 1, wherein the vinyl C₂-C₄-carboxylate copolymer is a vinyl acetate copolymer.
3. A catalyst as claimed in claim 2, wherein the vinyl acetate copolymer is an ethylene-vinyl acetate copolymer.
4. A catalyst as claimed in claim 3, wherein the ethylene-vinyl acetate copolymer comprises from 63 to 70 mol% of vinyl acetate and from 37 to 30 mol% of ethylene.
5. A catalyst as claimed in any of the preceding claims, wherein the catalytically active composition comprises from 1 to 40% by weight of vanadium oxide, calculated as V₂O₅, and from 60 to 99% by weight of titanium dioxide, calculated as TiO₂, based on the total amount of the catalytically active composition.
6. A catalyst as claimed in claim 5, wherein the catalytically active composition further comprises up to 1% by weight of a cesium compound, calculated as Cs, up to 1% by weight of a phosphorus compound, calculated as P, and up to 10% by weight of antimony oxide, calculated as Sb₂O₃, based on the total amount of the catalytically active composition.
7. A process for preparing aldehydes, carboxylic acids and/or carboxylic anhydrides, which comprises bringing a gaseous stream comprising an aromatic hydrocarbon and a gas comprising molecular oxygen into contact with a catalyst as claimed in any of claims 1 to 6 at elevated temperature.
8. A process as claimed in claim 7, wherein the catalyst is produced in situ from a pre-catalyst.
9. A process as claimed in claim 7 or 8, wherein o-xylene or naphthalene or a mixture of o-xylene and naphthalene is used as aromatic hydrocarbon and is oxidized to phthalic anhydride.